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EXAMINER

WANG, QUAN ZHEN

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/913,578

Applicant(s)

OREN ET AL.

Examiner

Quan-Zhen Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 21-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-16, 21-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not describe or suggest how to combine “the channels of the first downstream optical signal” with “the first upstream optical signal” to provide at least one valid copy of each channel.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1, 6, 9, 12-16, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izumi (U.S. Patent US 6,466,348 B1) in view of Badr (U.S. Patent US 6,567,194B1).

Regarding claims 1 and 9, Izumi teaches a node (fig. 21) for processing upstream optical signal and downstream optical signal in a fiber optic communication network (fig. 1C), the node comprising: a first optical block (fig. 21, combination of elements 325, 315, 360, and 340, and related elements) adapted to receive control information included within upstream optical signal (fig. 21, supervisory signal from transmission line 301) at a first frequency and transmit control information within upstream optical signal (fig. 21, supervisory signal to transmission line 302) at the first frequency, and an add-drop module (fig. 21, ADM 360) to drop optical signals from the upstream optical signal and add optical signal to the upstream optical signal; a second optical block (fig. 21, combination of elements 326, 316, 391, and 341, and related elements) adapted to receive control information included within downstream optical signal (fig. 21, the supervisory signal from transmission line 304) at a first frequency and transmit control information within downstream optical (fig. 21, the supervisory signal to transmission line 303) signal at the first frequency, and an add-drop module (fig. 21, ADM 391) to drop optical signals from the downstream optical signal and add optical signal to the downstream optical signal; and a control device (fig. 21, monitoring and controlling signal transmitting and receiving circuit 315 and 316), for processing control information received by each of the first and second optical block and providing within a second information of each of the first and second optical block control information adapted for use by another node (column 18, lines 11-54). Izumi further discloses an example of a structure of a monitor and controlling apparatus (fig. 7), which can be used for both the first and second optical block, comprising a first device (fig. 7, O/E converter

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183) for converting a first optical signal at a first frequency carried by the network into a first electrical signal, a second device (fig. 7, combination of element 185, 186, and 187) for demodulating from the first electrical signal first information modulated on the first optical signal; a third device (fig. 7, combination of elements 188, 189, 190) for modulating on a second electrical signal second information, a fourth device (fig. 7, E/O converter 184) for converting the second information modulated on the second electrical signal into a second optical signal at the first frequency. Izumi differs from the claimed invention in that Izumi does not specifically teach to combine channels of the first upstream optical signal with the channels of the first down stream optical signal to provide at least one valid copy of each channel in response to a disruption of the control information. However, it is well known in the art to combine optical signals from different optical paths onto a common path. For example, Badr discloses to combine optical signals from different optical paths onto a common path in a protected optical communication network. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the signal combination method of Badr in the system of Izumi in order to provide and to combine channels of the first upstream optical signal with the channels of the first down stream optical signal to provide at least one valid copy of each channel in response to a disruption of the control information in order to provide protection against failure.

Regarding claims 6, and 21-24, Izumi further teaches that a fiber optic network (fig. 1C) including the node (fig. 1C, node 118B) of claim 1 and further including a second node (fig. 1C, node 118C), the second node including a first device for

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converting a first optical signal at a first frequency (SV signal) carried by the network into a first electrical signal, the second node further including a second device for demodulating first information from the first electrical signal modulated on the first optical signal, the second node further including a third device for modulating second information on a second electrical signal, and the second node further including a fourth device for converting the second information modulated on the second electrical signal into a second optical signal at the first frequency (column 18, lines 11-54).

Regarding claim 12, Izumi further teaches a network includes a closed loop optical fiber, one of the first-mentioned nodes and at least one of the second nodes coupled to the closed loop optical fiber (fig. 1C).

Regarding claims 13, Izumi further teaches a network includes two closed loop optical fibers for carrying the first optical signal in opposite directions, each node being coupled to both optical fibers (fig. 1C).

Regarding claim 14, Izumi further teaches that the two closed loop optical fiber also carry the third optical signal in the two opposite directions (fig. 3).

Regarding claims 15-16, Izumi further teaches that the fiber optic network includes a closed loop optical fiber, one of the first-mentioned nodes and at least one of the second nodes coupled to the closed optical fiber (fig. 1C).

Regarding claim 25, Izumi discloses a node (fig. 21) for processing east-west optical signal (fig. 21, signal from transmission line 301 to transmission line 302) and west-east optical signal (fig. 21, signal from 304 to 303) in a fiber optical communication network (fig. 1C), the node comprising: a first optical block (fig. 21, combination of

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elements 325, 315, 360, and 340, and related elements) adapted to receive control information included within upstream east-west optical signal (fig. 21, supervisory signal from transmission line 301) at a first frequency and transmit control information within downstream east-west optical signal (fig. 21, supervisory signal to transmission line 302) at the first frequency; a second optical block (fig. 21, combination of elements 326, 316, 391, and 341, and related elements) adapted to receive control information included within upstream west-east optical signal (fig. 21, the supervisory signal from transmission line 304) at a first frequency and transmit control information within downstream east-west optical (fig. 21, the supervisory signal to transmission line 303) signal at the first frequency; and a control device (fig. 21, monitoring and controlling signal transmitting and receiving circuit 315 and 316), for processing control information received by each of the first and second optical block and providing within a second information of each of the first and second optical block control information adapted for use by another node (column 18, lines 11-54). Izumi differs from the claimed invention in that Izumi does not specifically teach to combine channels of the first upstream optical signal with the channels of the first down stream optical signal to provide at least one valid copy of each channel in response to a disruption of the control information. However, it is well known in the art to combine optical signals from different optical paths onto a common path. For example, Badr discloses to combine optical signals from different optical paths onto a common path in a protected optical communication network. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the signal combination method of

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Badr in the system of Izumi in order to provide and to combine channels of the first upstream optical signal with the channels of the first down stream optical signal to provide at least one valid copy of each channel in response to a disruption of the control information in order to provide protection against failure.

5. Claims 2-5, 7-8, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izumi (U.S. Patent US 6,466,348 B1) in view of Badr (U.S. Patent US 6,567,194B1) and further in view of Darcie (U.S. Patent US 4,701,904).

Regarding claims 2-5, 7-8, and 10-11, Izumi further discloses to drop and add optical signals at more different wavelengths (figs. 4-6). The system of Izumi differs from the claimed invention in that Izumi does not specifically teach the specific optical-to-electrical conversion devices, signal demodulation device for optical receivers and signal modulation devices and electrical-to-optical conversion devices for optical transmitters. However, the specific configurations of optical receivers and transmitters are well known in the art. For example, Darcie discloses exemplary optical receiver (fig. 6) and optical transmitter (fig. 3). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate the optical receivers and transmitters disclosed by Darcie into the system of Izumi in order to extract information from a dropping optical signal and provide information to an adding optical signal at a node in the network.

Response to Arguments

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6. Applicant's arguments filed on February 27, 2006 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw
4/2/2006


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